CLAIMS

What is claimed is:

1.   A method of inferring engine coolant temperature in cylinder head temperature sensor equipped vehicles comprising the steps of:

     measuring the cylinder head temperature;

5   calculating the engine coolant temperature from the measured cylinder head temperature as a function of at least one vehicle operational state;

     generating a signal for the calculated engine coolant temperature; and

10   sending the generated signal to a display.

2.   A method according to claim 1, wherein the vehicle operational state is engine revolutions per minute.

15   3.   A method according to claim 2, wherein the vehicle operational state is cylinder air charge temperature.

4.   A method according to claim 1, wherein the vehicle operational states are both engine revolutions per minute

20   and cylinder air charge temperature.

5.   A method according to claim 1, further including the step of filtering the calculated engine coolant temperature so as to prevent inaccurate display readings resulting from

25   sudden changes in vehicle operational states, the filter step performed prior to the step of generating a signal.

6.   A method according to claim 5, further including the step of recording the difference between the measured

30   cylinder head temperature and the filtered engine coolant temperature.

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7.	A method according to claim 6, further including the step of storing the recorded difference in keep alive

35	memory.

8.	A method according to claim 7, further including the steps of:

	decaying the difference between the measured cylinder
40	head temperature and the filtered engine coolant temperature as an exponential function of soak time upon vehicle startup;

	generating an initial, startup signal by subtracting the measured cylinder head temperature from the last
45	recorded difference stored in keep alive memory; and

	sending an initial, startup signal to the display.

9.	A method of inferring engine coolant temperature in cylinder head temperature sensor equipped vehicles
50	comprising the steps of:

	measuring the cylinder head temperature;

	calculating the engine coolant temperature from the measured cylinder head temperature as a function of engine revolutions per minute and cylinder air charge temperature;
55	generating a signal for the calculated engine coolant temperature; and

	sending the generated signal to a display.

10.	A method according to claim 9, further including the
60	step of filtering the calculated engine coolant temperature so as to prevent inaccurate display readings resulting from sudden changes in revolutions per minute and air charge temperature, the filtering step performed prior to the step of generating a signal.

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11. A method according to claim 10, further including the step of recording the difference between the measured cylinder head temperature and the filtered engine coolant temperature.

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12. A method according to claim 11, further including the step of storing the recorded difference in keep alive memory.

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13. A method according to claim 12, further including the steps of:

decaying the difference between the measured cylinder head temperature and the filtered engine coolant temperature as an exponential function of soak time upon vehicle startup;
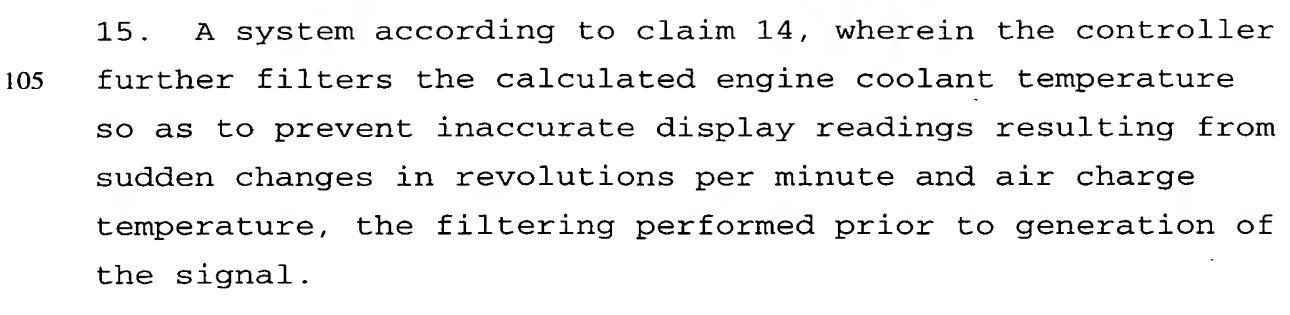
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generating an initial, startup signal by subtracting the measured cylinder head temperature from the last recorded difference stored in keep alive memory; and

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sending an initial, startup signal to the display.

14. A system for inferring engine coolant temperature in cylinder head temperature sensor equipped vehicles comprising:

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a cylinder head temperature sensor; and

a controller for calculating the engine coolant temperature from the measured cylinder head temperature as a function of engine revolutions per minute and cylinder air charge temperature, wherein the controller generates a signal for the calculated engine coolant temperature and sends the generated signal to a display.

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15.   A system according to claim 14, wherein the controller further filters the calculated engine coolant temperature so as to prevent inaccurate display readings resulting from sudden changes in revolutions per minute and air charge temperature, the filtering performed prior to generation of the signal.

16.   A system according to claim 15, wherein the controller further records the difference between the measured cylinder head temperature and the filtered engine coolant temperature.

17.   A system according to claim 16, wherein the controller further stores the recorded difference in keep alive memory.

18.   A system according to claim 17, wherein the controller further:
    decays the difference between the measured cylinder head temperature and the filtered engine coolant temperature as an exponential function of soak time if determined that the cylinder head temperature measurement was taken at vehicle startup;
    generates an initial, startup signal by subtracting the measured cylinder head temperature from the last recorded difference stored in keep alive memory; and
    sends an initial, startup signal to the display.